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Benefits of Campus Outdoor Recreation Programs: A Review of the Literature

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Abstract

Campus outdoor recreation programs and facilities have faced a number of public attacks questioning their value for students. Climbing walls in particular have become, to some, emblematic of waste and financial excess in higher education. Despite these claims, this literature review uncovers numerous benefits for participants and schools provided by campus outdoor recreation specifically and campus recreation more generally. For colleges and universities, these benefits include positive effects on student recruitment, retention, and satisfaction and the opportunity for recreation programs to support academic programs directly. For students, benefits include increased academic success, smoother transitions to college, better mental and physical health, lower levels of stress and anxiety, better and more numerous social connections, better intra- and interpersonal skills, increased environmental sensitivity, and better connectedness to nature and to place.

KEYWORDS: campus outdoor recreation; campus recreation; outdoor recreation; outdoor education; higher education; adventure education

Politicians, news media, and books have been saturated with criticisms of perceived excessive spending on college and university amenities (Arum & Roksa, 2011; Blumenstyk, 2012; Brandon, 2010; Friel, 2003; Hacker & Dreifus, 2010; Martin, 2012; Schuman, 2013; Scott, 2012; U.S. Department of Education, 2006; Woodhouse, 2015). These critics have often singled out specific campus resources, such as college climbing walls or other campus outdoor recreation programs (Brandon, 2010; Martin, 2012). Perhaps the peak of this trend was when one politician commented, "What the hell do you need a rock climbing wall for? Tell the kids at [University of New Hampshire], 'Go outside and climb those rocks.'" (Casimiro, 2015, para. 3). Despite these vocal critiques, this paper will demonstrate that campus outdoor recreation offers numerous benefits, not only for student participants, but also for colleges and universities as organizations.

Before investigating outcomes of these programs, we will define the scope of campus outdoor recreation as any outdoor recreation activities sponsored by a college, university, or associated auxiliary unit. This includes academic or nonacademic programs and includes recreational activities that approximate outdoor settings (e.g., climbing walls or kayaking in pools) but do not take place in the outdoors. These types of programs may be housed organizationally within campus recreation departments, but may also be associated with student organizations, residential communities, or student leadership programs (Speelman & Wagstaff, 2015).

Because of the often intertwined nature of campus outdoor recreation and campus recreation departments, it is important to mention briefly the history and context of campus recreation departments. The first campus recreation departments were formed at the beginning of the 20th century and often included aquatics programs, intramural programs, sport clubs, fitness, camps, adaptive programming, and personal training, in addition to outdoor recreation (McFadden & Stenta, 2015). The availability of campus recreation is an important factor for students in choosing which school to attend and in deciding whether, once enrolled, they will remain enrolled (Haines, 2001). Nationally, students rate campus recreation programs as equally important to their satisfaction and success as housing, food options, and internship opportunities (National Intramural-Recreational Sports Association, 2004). Providing "extraordinary experiences," such as those associated with outdoor adventure, can provide organizations, including universities, a competitive advantage in the marketplace (Jefferies & Lepp, 2012, p. 37).

Because of the diverse nature of these departments and programs, it is difficult to make generalizations about them. This paper casts a wide net and includes some studies that are general to campus recreation as a whole and notes instances for which more research is needed into campus outdoor recreation specifically. For this broad approach, in this paper we will answer the research question, what are the potential benefits of campus outdoor recreation programs? These benefits extend beyond student recruitment, retention, and satisfaction. Campus outdoor recreation programs also provide students with benefits in the realms of mental and physical health and wellness, prosocial connection and interpersonal skills, pro-environmental attitudes, academic success, employment opportunities, and other transferable skills.

Method

In response to these public attacks questioning the value of campus outdoor recreation programs and facilities, the Association of Outdoor Recreation and Education (AORE) formed a working group, the Campus Outdoor Recreation Assessment and Accountability (CORAA) task force. This task force was charged with developing effective assessment and advocacy tools to support its member programs. The first step in this process was to query AORE members (who are largely professional staff and students of college and university outdoor recreation programs) to ascertain what types of support the AORE could provide for them as they advocate for their programs. Through an online survey, members requested a literature review summarizing the benefits of campus outdoor recreation, for individual participants and for colleges, universities, and associated auxiliary departments that house these programs.

Based on a search of the literature using search terms such as *campus outdoor recreation outcomes*, the CORAA working group identified four categories of outdoor recreation benefits relevant to higher education: academic, health and wellness, transferable skills, and environmental awareness. The working group then searched for articles using associated search terms in aggregate academic search engines, including Ebsco, Web of Science, and Google Scholar. This resulted in 161 articles to be reviewed. After the working group read these articles, the category of prosocial connection and interpersonal skills was added, in addition to expanding the academic category to include employment and transferable skills.

This investigation yielded a number of research studies that were tangentially related to campus outdoor recreation, but few which addressed campus outdoor recreation specifically.

Health and Wellness Outcomes

Transitioning to and navigating through college can be a stressful time for students. Balancing classes, work, social, and family responsibilities pulls students in many directions. Recreation, especially when it takes place outdoors, can reduce that stress (Clark & Anderson, 2011; Kanters, Bristol, & Attarian, 2002; Mann & Leahy, 2010). Recreation experiences in wild and natural areas provide participants with health benefits that are distinct from those experienced through recreation in built environments. For example, exercising in natural areas improves psychological well-being by enhancing mood and self-esteem and by reducing feelings of anger, confusion, anxiety, depression, arousal, stress, and tension to a degree that is significantly greater than what would accrue from the same amount of exercise in a built environment (Aspinall, Mavros, Coyne, & Roe, 2013; Barton, Hine, & Pretty, 2009, as cited in Louv, 2011, p. 59; Bodin & Hartig, 2003).

Participants in outdoor experiential programs have reported personal calming and solitude (Hlansy, 2000) and increased self-esteem (Barton, Bragg, Pretty, Roberts, & Wood, 2016). Participants in college outdoor orientation programs have demonstrated increased emotional autonomy and purpose (Vlamiš, Bell, & Gass, 2011), and students in an extended outdoor adventure education degree curriculum have shown increased hardiness, a psychological construct that describes the ability to turn stressful events into growth-inducing, rather than debilitating, experiences (Sheard & Golby, 2006). Female participants in outdoor adventure programming have also shown increased resiliency, which appears to persist over time (Beightol, Jeverson, Carter, Gray, & Gass, 2012; Overholt & Ewert, 2015; Whittington, Aspelmeier, & Budbill, 2016).

In addition to the mental health benefits, numerous physical benefits come from participation in physically active recreational activities. Regular physical activity helps control weight; reduces the risk of numerous diseases; and strengthens bones, muscles, and joints (U.S. Department of Health and Human Services, 2008). Involvement in recreational sports during college is a significant predictor of the importance students place on fitness activities after graduation (Forrester, Arterberry, & Barcelona, 2006).

Prosocial Connection and Interpersonal Skills

Outdoor recreation has been shown to have a positive effect on participants' levels of social support (Clark & Anderson, 2011; Kanters et al., 2002; Mann & Leahy, 2010). Involved students have more friends, more people on campus with whom they would feel comfortable sharing an emotional secret (Austin, Martin, Mittelstaedt, Schanning, & Ogle, 2009), and reduced levels of social anxiety (Ozen, 2015). Participants in campus-organized outdoor trips experienced an increased sense of community, and trip alumni reported maintaining lifelong friendships with participants in their university outdoor trips (Breuning, O'Connell, Todd, Anderson, & Young, 2010).

Outdoor orientation programs, wilderness trips that students engage in before they start fall classes, provide an intense experience that encourages students to bond and create supportive re-

relationships (Austin et al., 2009; Bell, 2006, 2012; Bell, Gass, Nafziger, & Starbuck, 2014; Frauman & Waryold, 2009; Howard, O'Connell, & Lathrop, 2016; Wolfe & Kay, 2011). Participants also feel more committed to their university and experience a smoother transition to university life (Howard et al., 2016; Lien & Goldenberg, 2012; Wolfe & Kay, 2011). These experiences result in not only higher levels of social engagement, but also more reflection and a higher sense of life purpose (Bailey & Kang, 2015). In a longitudinal study, Gass, Garvey, and Sugerman (2003) reported that 17 years after an outdoor orientation trip, students continued to feel the positive effects of this experience.

Recreation experiences often have benefits for specific subgroups within the university. For example, when college student organizations participate in challenge course experiences, the members experience gains in group effectiveness, group cohesion, and personal effectiveness within the group (Hatch & McCarthy, 2005). Outdoor adventure-based orientation trips have been shown to help university athletic teams replace a culture of hazing ceremonies for induction of first year athletes with a more cooperative, egalitarian, and inclusive model that contributes to long-lasting improvements in team cohesion and functioning (Johnson & Chin, 2016). All-female trips often help participants feel more comfortable sharing ideas, feel more empowered to make decisions and take action, and have an increased perception of their capabilities and power (Mitten, 1992). Experiences developed with and for Indigenous youth may yield an increased sense of connection with creation and with self (Ritchie et al., 2015).

Campus outdoor recreation programs may also be an avenue for universities to explore more transformational visions of nondiscrimination and inclusion. Recreation programs have expertise in adaptive recreation, universal design, and facilitating inclusive groups. They can be models for further challenging the "hegemonic discourses that have been used to justify inequality and oppression along the axes of race, class, gender, and sexuality" (Promis, Erevelles, & Matthews, 2001, p. 49). One example is the DIVE (Diversity and Inclusion adVenture Experience) program at North Carolina State University in which students, within the format of a 9-day sea kayaking expedition, discuss issues of social justice on campus and in the broader societal context (NC State University, University Recreation, n.d.).

Environmental Outcomes

Schools with campus outdoor recreation programs that include outdoor trips in wild or natural areas can support schools' environmentally focused goals. Many colleges and universities are incorporating environmental aspects into their missions and intended learning outcomes, but are having difficulty achieving these environmental goals. It is difficult to design a solely classroom-based curriculum that produces students who engage in pro-environmental behaviors because, although classroom-based education tends to focus on cognitive outcomes, responsible environmental behavior is highly correlated with students' affective and emotional connections to the natural world. Pro-environmental behavior has been shown to correlate with a person's feelings of connectedness to nature (Mayer & Frantz, 2004), level of environmental sensitivity (Hungerford & Volk, 1990), emotional affinity toward nature (Hinds & Sparks, 2008; Kals, Schumacher, & Montada, 1999), and place identity (Vaske & Kobrin, 2001).

These affective outcomes are most effectively developed through direct contact with and experiences in the natural world rather than in a classroom (Chawla, 1999; Eisenhauer, Krannich, & Blahna, 2000; Kals et al., 1999; Palmer, 1993; Sivek, 2002). It is no surprise then that participation in outdoor recreation activities is positively associated with pro-environmental behaviors (Theodori, Luloff, & Willits, 1998), especially when the outdoor recreation activity is nonmotorized and appreciative of the outdoor environment (Teisl & O'Brien, 2003; Thapa & Graefe, 2003). Because society is experiencing a "fundamental and pervasive" shift away from nature-based recreation (Pergams & Zaradic, 2008), it cannot be assumed that university students will develop these affective environmental connections on their own.

Campus outdoor recreation programs, especially those that include both extended outdoor trips in wild or natural areas and frequent opportunities for exposure to nature, provide opportunities for participants to develop the affective outcomes needed to complement the cognitive outcomes of the school's formal environmental curriculum. Research shows that both frequent and extended outdoor experiences have led to increased feelings of affinity toward nature (Kals et al., 1999) and that outdoor and environmental education experiences of a sufficient length influence participants' feelings toward the environment (Rickinson, 2001; Zelezny, 1999) and connectedness to nature (Barton et al., 2016). University outdoor orientation trips specifically have been shown to increase place identity (Austin et al., 2009), which correlates with pro-environmental behavior.

Academic and Employment Outcomes

Participation in campus recreation helps students relieve academic stress (Kanters et al., 2002; Ragheb & McKinney, 1993) and correlates strongly with academic success and student retention (Bailey & Kang, 2015; Gibbison, Henry, & Perkins-Brown, 2011; Haines, 2001). Participation in recreation can positively affect students' overall experience at a university (Bobilya & Akey, 2002), and outdoor orientation programs can help students develop appropriate educational plans (Vlamiš et al., 2011).

Outdoor adventure education experiences improve students' ability to work with others in academic settings. Improvements can be seen in students' perceived group-work skills, the functioning of existing student work groups, attitudes and confidence toward group work, and the cooperative and social environment within higher education (Cooley, Burns, & Cumming, 2014). Outdoor adventure education experiences can also help participants shift their perception toward viewing learning as fun and toward understanding that the best learning involves initiative by the learner (Sibthorp et al., 2015). Students who participate in an outdoor adventure-based first year seminar course showed significantly higher learning outcomes than those who participated in an indoor classroom-based course. The adventure-based first year seminar led to higher scores by fostering trust among student participants, thereby leading to more in-depth personal discussions about curricular topics (Bell & Holmes, 2011).

Campus outdoor programs can also work directly with academic programs to help them meet their learning objectives. Adventure education components, such as high and low ropes courses, when paired with university learning communities, increase students' in-class learning by developing a support network for academic learning and enhancing connections with other students, faculty, and the university, as well as by promoting self-learning and helping students develop transferable skills (Bobilya & Akey, 2002; Schimmel, Daniels, Wassif, & Jacobs, 2016). A specific example of this type of collaboration is the wilderness adventure programs offered to engineering students at the Massachusetts Institute of Technology (MIT) and the Singapore University of Technology and Design (SUTD). These programs help introduce SUTD students to the culture of MIT, help students develop leadership skills, and increase their understanding of engineering science and design thinking (Saulnier, Ahn, Bagiati, & Brisson, 2015). In an example of a longer duration program, Humboldt State University (n.d.) offers Klamath Connection. This yearlong experience engages students with education focused on the Klamath River, including periodic field trips to the river and a multiday summer immersion trip.

Many campuses provide students the opportunity to take leadership roles within a campus outdoor recreation program, including serving on steering committees, leading trips, and planning events. This leadership experience may make students more employable after graduation. Students who develop recreation skills may also find careers after graduation in the outdoor recreation profession, which employs 6.1 million Americans (Outdoor Industry Association, 2012). Furthermore, graduates in recreation-related fields have employment levels that compete favorably with graduates in other fields (Carnevale, Cheah, & Strohl, 2012).

Transferable Skills

In addition to the aforementioned benefits of campus outdoor recreation programs, the literature speaks to a category of participation benefits referred to as “transferable skills.” Transferable skills can be thought of as skills learned during an outdoor experience that have direct applicability in settings beyond the outdoor arena.

Life effectiveness has been defined as the cognitive, emotional, and behavioral aspects of human functioning, which determine a person's ability or effectiveness in responding to life situations (Neill, Marsh, & Richards, 2003). Participants in outdoor recreation experiences, including short 1-day challenge course experiences, have demonstrated significant increases in life effectiveness scores. Moreover, many participants have experienced further gains over time in the dimensions of time management, intellectual flexibility, task leadership, emotional control, and achievement motivation (Flood, Gardner, & Cooper, 2009; Frauman & Waryold, 2009; McLeod & Allen-Craig, 2007).

With increased life effectiveness comes a stronger belief in oneself and one's ability to complete complex tasks. Paxton and McAvoy (1998) examined the effects of an outdoor adventure program on participants' self-efficacy and found gains immediately after the experience and an increase in all scales 6 months after. Similarly, Garst, Scheider, and Baker (2001) found increases in participant self-perception immediately after and 4 months following an outdoor adventure program. In a summary of meta-analyses of the effects of outdoor education experiences, Neill and Richards (1998) found significant and long-lasting effects on positive self-concept, self-confidence, and locus of control. Outdoor recreation participants are learning valuable life skills and the effects are lasting.

Discussion and Limitations

The existing literature shows numerous benefits from campus outdoor recreation programs, but there are weaknesses and gaps in the research. We started with a focus on campus outdoor recreation, but soon realized there were not enough studies addressing campus outdoor recreation specifically. We, therefore, widened our search to include studies of campus recreation programs more broadly defined. There are numerous benefits that are common to general campus recreation programs and outdoor recreation programs, but without more studies on campus outdoor recreation programs specifically, the benefits of campus outdoor recreation programs cannot be adequately established.

Furthermore, much of the research that exists on campus outdoor recreation programs documents the existence of benefits, but more needs to be done to document the extent of these benefits and to compare the degree of benefit gained with those benefits gained from other types of campus programming. Providing quantification of these benefits, especially as compared with benefits gained from other campus facilities and programs, will aid campus administrators in deciding how to allocate resources.

Research areas of strategic importance to campus outdoor recreation programs and to the outdoor profession more broadly have been identified by the AORE, through a process of polling its membership to determine what research would be most needed. These research areas include benefits for student recruitment and retention, return on financial investment, contributions to student wellness and academic success, the role of outdoor programs in developing pro-environmental attitudes and behaviors, outcomes related to leadership skills and judgment, and the promotion of diversity and inclusion. Additional research is needed to examine these questions as they relate to campus outdoor recreation programs broadly and to more specific aspects of campus outdoor recreation programs, including climbing walls, challenge courses, outdoor orientation programs, and recreation programming that supports academic courses (AORE, 2015).

Although this paper was focused on benefits of campus outdoor recreation, we did not examine the alleged contribution of climbing walls and campus recreation facilities to rising tuition costs. Clearly, however, anyone who wishes to counter the rhetoric that assigns the blame for rising tuition on campus recreation facilities will need to understand the factors driving increases in tuition. We recommend starting with a report from the American Institutes for Research, which concludes that “climbing walls are easy targets, maybe even fair game, but they aren’t what’s behind the rising price of college” (Kirshstein & Kadamus, 2012, p. 4).

Conclusion

As public rhetoric continues to frame campus outdoor recreation programs and facilities as symbolic of waste and excess in higher education, directors of campus outdoor recreation programs will need to be able to communicate the value of their programs to school administration, political decision makers, the media, and their constituents. Research on financial return on investment will also help administrators decide how to prioritize resources. Existing research documents the benefits for the schools and for the participants. These benefits extend beyond the typically cited improvements in recruitment, retention, physical fitness, and social connection, to include increased academic success, leadership and group skills, environmental connection, employment opportunities, increased life effectiveness, and other transferable skills. Campus outdoor recreation programs can also directly support academic programs in achieving learning objectives, especially ones related to the environment and to diversity and inclusion.

Although the existing research establishes numerous benefits of campus outdoor recreation programming and facilities, more needs to be done to quantify the extent of the benefits, especially as they compare with the benefits gained from other types of campus facilities and programming.

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